



# HpE PROCESS

**INSTALLATION, PARTS, AND  
MAINTENANCE INSTRUCTIONS**

**PUMPING SYSTEMS**

**CENTRIFUGAL PUMPS  
FL30 / 50CI**



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## 1 GENERAL INFORMATION

### 1.1 Equipment description

FL30CI industrial centrifugal pumps are used mainly in fluid transfer processes in the food, chemical, and wine industries. The simplicity of the parts makes maintenance work easier. The surface finish of the parts in contact with the product is shot-blasted/glazed and the external finish is fine shot-blasted, with other options available based on customer needs.


FL50CI sanitary centrifugal pumps are mainly used in processes in the food, pharmaceutical, and cosmetic industries. The simplicity of the different parts of the pump makes maintenance work easier. Additionally, their design and finish ensure a high level of hygiene is maintained. The surface finish of the parts in contact with the product is shot-blasted/glazed and the external finish is fine shot-blasted, with other options available based on customer needs.

They are comprised of a casing, impeller, shaft, and pipes made from AISI 316 stainless steel, with the lantern ring, housing, and stand made from AISI 304 stainless steel. The mechanical seal and gasket materials are chosen based on the required use. They come with a three-phase motor with IP55 level protection, unless specifically stated otherwise when ordering.

### 1.2 Application

Each type of pump is designed for a specific field of application. The pump was selected to fulfil specific service conditions when ordering.


Hydraulic performance is provided through a range of impeller diameters and speeds for each pump type. The performance curves also show the power absorbed and the NPSH required. The intended use of the pump is defined by its performance curve and the operating limits.

 HpE Process will not be liable for any damage that may occur if the purchaser provided incomplete information (the type of liquid, the viscosity, the density, the temperature, ...).

### 1.3 Appropriate use

FLUIDMIM pumping systems:

- Are designed for use with industrial plants and machines.
- They must only be used for the purposes detailed and confirmed in the order.
- They must only be used under the indicated operating conditions.
- They must only be used within their corresponding power limits.
- They must only be used in the agreed operating temperatures and pressures.

 Any other use is considered as ***INCORRECT***

## 2 THE CONTENTS OF THE MANUAL

This manual contains information on everything involving the centrifugal pump types and models described in the subsequent pages. It must always be available to personnel that work with this type of pump.

Please contact us in the event of any queries about the explanations provided or if you would like further information.

The information, technical specifications, and notes in this manual were correct at the time of printing. However, no claims against previously supplied FLUIDMIM systems will be accepted based on this information or these drawings and descriptions.

### 2.1 Warning symbols



A general hazard to people



A caustic or corrosive agent hazard



An electrical hazard



Wearing protective glasses is compulsory

### 2.2 Legal implications

HpE Process will not be held liable for any damage or faults caused by:

- Incorrect use.
- Non-manufacturer authorised modifications to the system.
- Incorrect work with or on the pumping system.
- Incorrect operation
- Disregarding the technical documentation.
- Not following the instructions specified in this manual.

If the company considers it appropriate, HpE Process reserves the right to modify the information contained in this manual without prior warning.

### 2.3 Warranty

The equipment is guaranteed against manufacturing defects for 2 years from the date of supply.

The described maintenance operations are not considered interventions under warranty.

It will be legally voided, and HpE Process will also be compensated for any civil liability claim submitted by third parties, if:

- Service and maintenance work is not carried out in accordance with the service instructions;
  - Our personnel did not carry out the repairs or they were carried out without our written authorisation;
  - Our material was modified without our prior written authorisation;
  - Non-original HpE Process parts or lubricants were used;
  - The material was used in an incorrect or negligent manner.
  - The manufacturer is always responsible for evaluating whether or not the warranty is applied. This means that they will require as much information as possible (graphic material, the operating protocol, detailed description(s) of the incident(s), or any other information that may be needed). If this requires an in situ visit, please consider that separately.
- The warranty covers manufacturing defects and does not include:
- Any damage caused when handling parts during transportation or packaging.
  - Any damage caused during the assembly process in the installation.
  - Any damage caused by an incorrect installation.
- The warranty covers manufacturing defects and does not include operating faults, such as:
- Any damage caused by the machine operating when empty.
  - Any damage caused by vibrations due to not being correctly secured.
  - Any damage caused by the pump/base unit not being levelled correctly.
  - Any damage caused by incorrect pumping system operations.
  - Any corrosion damage deriving from using different reagent concentrations to those stated in the order.
- The warranty excludes components that experience wear, such as mechanical seals, gaskets, lip seals, bearings, etc.
- Carrying out the maintenance tasks described in the user manuals for the motors and pump is an essential condition.

## 2.4 Safety



Electrical work must be carried out by qualified personnel.



The drive system is a potential hazard to the lives of personnel or their environment, when:

- The personnel working with or on the drive system is not sufficiently qualified.
- The drive system is used incorrectly.

We recommend taking the appropriate measures to avoid material damage occurring in the event of a drive system fault.

Never start up the drive system after detecting a fault.

Never start up the pump before first checking that all the parts and connections are correctly installed.

Do not touch the pump's parts while it is in operation and never operate it if any parts are missing, as they all have their function.

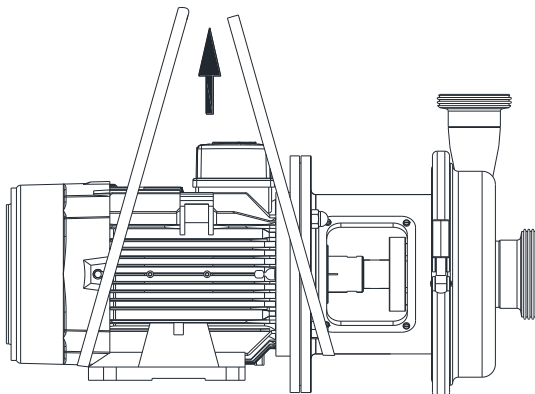
Pay particular attention to the type of liquid left in the pump casing during maintenance, as it may be hazardous to health or still be hot.

Completely disconnect it from the electricity supply before undertaking any disassembly work.

### 3 LOGISTICS

#### 3.1 **Transportation**

On receiving the equipment, please check that everything is in order, that the pump remains undamaged, and that the dispatched material is listed in the shipping documents. Please inform the carrier of any damage immediately and take photos of the damage if required.



Move the pump using suitable means of transport and lifting equipment, ensuring that the equipment is secured.



Warning! Remove any housing from the motor prior to lifting it. The housing's surface is slippery.

#### 3.2 **Storage**

Suitable storage conditions are required if not installing the pump immediately. No special measures are required for periods up to one year, as long as the equipment is stored in a dry, dust-free location away from the light.

We recommend turning the impeller a complete revolution every 30 days.

The shafts and surfaces come protected with a layer of anti-rust primer applied during manufacturing.

If using the pump and then storing it for a long period, completely empty it of any liquids and clean it to avoid any sediments or crusts from building up.

## 4 INSTALLATION

### 4.1 Location

The equipment must be placed as close as possible to the suction tank and lower than the liquid level. Please ensure that the equipment can be accessed for maintenance and mount the pump on a flat and even surface.

Clean the mounting for the pump prior to installing it.

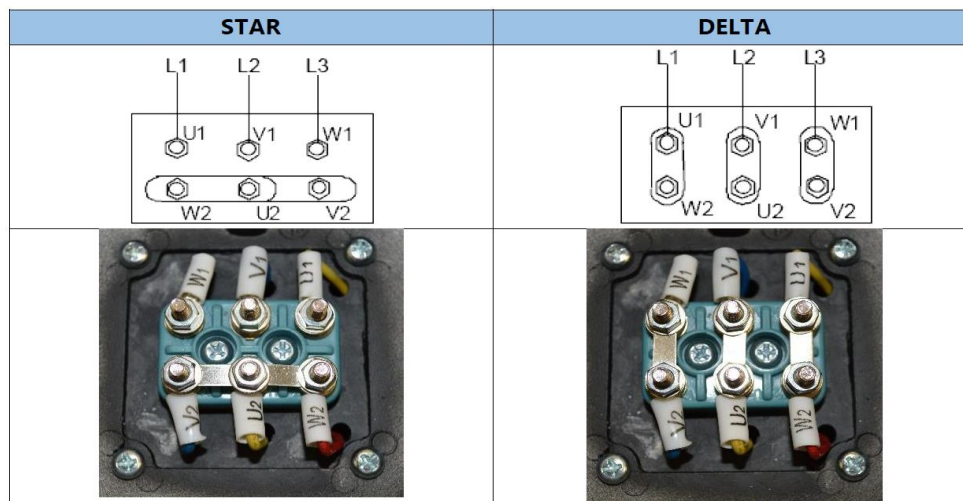
When fitting pipes, connect them independently to the equipment's respective nozzles, without resting them on the pump, avoiding using elbows, bypasses, reducers, etc., whenever possible, but if required, they should be wide gauge to minimise head losses. If using reducers, look for a suitable design to prevent air cavitation occurring.

### 4.2 Electrical connections



Any electrical work must be undertaken by qualified personnel.

Electrical connection



Electrical installation must always take place after the hydraulic connection and follow the current technical guidelines.

A manual electrical disconnection device must also be installed, along with overload protection, and where necessary, a device to prevent spontaneous operation.

Please ensure that all the parameters are correct for the installed motor and are in line with the data listed on its nameplate.





Ensure that the pump is completely disconnected from the electricity supply prior to any maintenance or service operation. Otherwise, it is a potential hazard to operative safety or it may cause material damage.

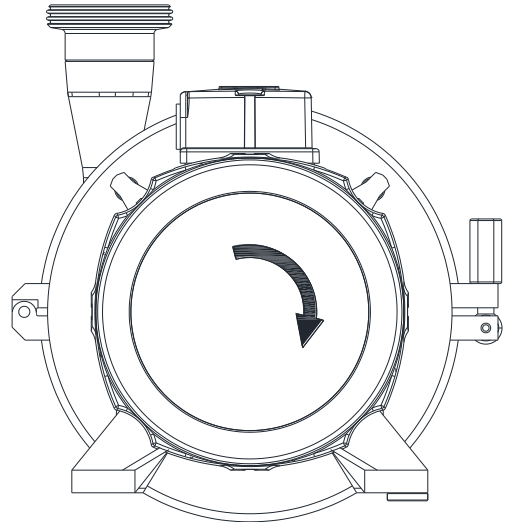
Always check that the rotation direction is as indicated on the label stuck to the fan cover.

## 5 START-UP AND MAINTENANCE

### 5.1 Start-up

Please check the following prior to start-up:

- ✓ The motor fan rotation direction is clockwise when viewing the pump from behind.
- ✓ The pump turns freely by hand.
- ✓ The suction valve must be fully open while the discharge valve must be partially open.
- ✓ The electrical connections and fastenings are correct
- ✓ The pipes and pump are filled with the liquid requiring pumping. Otherwise, please fill them, as **THE EQUIPMENT MUST NEVER ROTATE WHEN DRY.**
- ✓ The drive system is sufficiently ventilated.
- ✓ Every rotating part and surface that can reach high temperatures is protected against any contact.



### 5.2 Maintenance



The equipment must be completely disconnected from the electricity supply for any maintenance work.

While in operation, occasionally check the pump for the following:

- ➔ Any seal leaks, replacing the seal if any are found.
- ➔ That the pump operates consistently and without any vibrations.
- ➔ If the pump does not quickly provide the required flow, please stop it and prime it again.
- ➔ If pumping liquids that tend to harden or crystallise, clean it thoroughly after use to help extend the seal and unit's useful life.

- Choke the discharge pipe in the event that the discharge valve is more open than required or if the equipment is operating at a lower height than the system requires, as such adjusting the required flow, pressure, and electrical consumption values.

### 5.3 Cleaning



Using aggressive cleaning products such as caustic soda and nitric acid may burn the skin.



Wear rubber gloves during all cleaning procedures.

Always wear protective goggles.

#### - CIP process cleaning solutions.

Only use clear water (chlorine-free) when mixing with the cleaning agents:

- **Alkaline solution:** 1% by weight of caustic soda (NaOH) at 70°C (158°F)

1 kg NaOH + 100 litres of water = cleaning solution

or

2.2 litres of 33% NaOH + 100 litres of water = cleaning solution

- **Acidic solution:** 0.5% by weight of nitric acid (HNO<sub>3</sub>) at 70°C (158°F)

0.7 litres of 53% HNO<sub>3</sub> + 100 litres of water = cleaning solution



Monitor the concentration of the cleaning solutions. A higher concentration may lead to the deterioration of the pump's sealing components.

#### Cleaning solutions for SIP processes.

Steam sterilisation is used on all the equipment, including the pump.

Do NOT use the equipment during the steam sterilisation process. The parts/materials will not be damaged if this manual's indications are observed. Ensure that no cold liquid enters the system until the pump temperature is less than 60°C (140°F).

The pump generates significant head loss through the sterilisation process.

We recommend using a bypass loop with a discharge valve to ensure that steam / superheated water sterilises the entire loop.

Maximum conditions during the SIP process with steam or superheated water

- Max. temperature: 140°C / 284°F
- Max. time: 30 min
- Cooling: Sterile air or inert gas
- Materials: EPDM and FPM

## 5.4 Detecting and resolving faults

- ✓ In the event of a fault, please check the possible causes listed below. Please contact the HpE Process technical support service if unable to resolve the fault using the solutions provided.

### POSSIBLE FAULT CAUSES AND SOLUTIONS

- 1) The priming process was incorrect. Please repeat the priming process.
- 2) Check that the suction connectors are correctly tightened as air can enter through them.
- 3) Air may be entering through the seal. Replace it or if operating with vacuum suction, consider a solution with a spring for vacuums.
- 4) Check that the suction valves are open and that there aren't any blockages in any of the pipes.
- 5) The loop's net height suction head may be lower than required by the pump. Please attempt to reduce head losses or regulate the pump to a lower flow rate.
- 6) Replace the check valve as it may not be working properly.
- 7) Reduce head losses as they may be higher than the pump's characteristics. The solution involves attempting to reduce the head loss or replacing the pump with another that is more suitable.
- 8) Check that the motor's rotation direction and speed are correct.
- 9) Check that the impeller has not been blocked by anything, or that it isn't worn, replacing it with a new one in this case.
- 10) Check that the seal does not have any worn parts. Replace them if required.
- 11) Check whether any friction is occurring with the impeller. Solutions include reducing the temperature, the suction pressure, or adjusting the impeller/cover unit.
- 12) Check the pump's characteristics given that the calculated viscosity may be lower than the fluid's actual viscosity.
- 13) Consider whether installing a deaerator is required due to excessive gases dissolved in the pumped liquid.
- 14) The possibility of lower than expected head losses. The solution would involve increasing those losses or rather operating the pump at higher rate.
- 15) The specific weight of the fluid is higher than expected. This would require increasing the motor's power output or reducing the service flow rate.
- 16) Stressed pipes. Connect the pipes to the pump without stress.
- 17) A higher flow rate than expected as the head losses are lower than expected. This would involve reducing the equipment's operating level or increasing the head losses.
- 18) Check that the rotation speed is not excessive, reducing if necessary.
- 19) Internal friction has occurred between the rotating and fixed parts. Normal assembly conditions need restoring.
- 20) Check the motor-pump alignment or whether the shaft is twisted. Restore the alignment or replace the shaft.
- 21) Check that the pump and motor bearings are in perfect condition, otherwise replace them.
- 22) Check that the electrical connection corresponds to the data indicated on the motor's nameplate.
- 23) The voltage is insufficient for the installed motor. In this case, replace the motor with one with sufficient voltage.
- 24) Check that the seal is not very worn. Replace if required.
- 25) Check that the chosen seal fulfils the needs of the fluid requiring pumping and its temperature.
- 26) The flushing cycles weren't extended or rather fluid was left pumping in the equipment for a long time in the case of fluids that easily crystallise.
- 27) The seal was not fitted correctly. Fit it again carefully.

- 28) The rotation direction for non-reversible seals is incorrect. Restore the correct rotation direction in that case.
- 29) Check that the flow is sufficient for chilled mechanical seals. Otherwise, increase the quantity of flushing and chilling liquid.
- 30) The pump may have been operated when dry. In this case, avoid the fault recurring by installing an automatic emergency stop.
- 31) Check that excessive play in the assembly is not causing the shaft to oscillate or that there are any worn bearings. If required, restore normal assembly conditions, replacing the worn parts.
- 32) Check that the choice of seal was correct in the event of any solid elements suspended in the fluid, or fit a filter to the suction pipe.
- 33) If pumping high temperature liquids, please gradually increase the fluid temperature to prevent a thermal shock. Alternatively, lower the liquid temperature.
- 34) Check that the impeller is balanced, otherwise replace it.
- 35) Check that the pump is not operating with a too slow flow rate. Regulate the pump to operate at a higher level in this case. Or alternatively when the flow rate is excessive, regulate the pump to a lower level.
- 36) If cavitation has occurred, prevent it by increasing the suction pressure.
- 37) Check that the pump and/or pipes are secured correctly.
- 38) A lack of lubrication of the bearings or lubrication with the wrong grease. They need replacing and lubricating correctly.
- 39) Water has infiltrated due to wear to the oil seal rings. Replace the worn parts in this case.
- 40) The discharge pressure is too high. Reduce the head losses if required.
- 41) The pumping pressure is too low. Increase the pressure by increasing the impeller diameter or pump speed.
- 42) The O-rings are incorrect for the pumped fluid. Check with the supplier for the ideal material.
- 43) There isn't enough tension in the seal spring. Adjust the tension as indicated in this manual.
- 44) Check that the suction pipes and filters are not blocked.
- 45) The pump hasn't purged. It must be purged and filled again.

POTENTIAL PROBLEMS	Irregular discharge flow or pressure	Excessive electricity consumption	Motor overload	Mechanical seal leak	The mechanical seal does not last long	Mechanical seal rupture	Vibrations and/or abnormal noises	The bearings don't last long
1								
2	X						X	
3								
4								
5	X						X	
6								
7								
8	X							
9		X					X	
10								
11			X				X	
12	X	X	X				X	
13								
14								
15		X						
16			X				X	
17		X						
18		X						
19		X					X	X
20		X	X	X	X		X	X
21		X	X				X	
22		X						
23		X						
24				X				
25				X	X	X		
26				X	X	X		
27				X	X			
28				X				
29				X	X			
30				X	X			
31				X	X			
32					X			
33						X	X	
34							X	X
35			X				X	
36	X						X	
37			X				X	
38			X				X	X
39								X
40							X	
41								
42				X				
43				X				
44	X						X	
45								

## 5.5 Material recycling



Please help to protect the environment and recycle all recyclable materials in accordance with the current local regulations in the region.

## 6 ASSEMBLY AND DISASSEMBLY

### 6.1 Aspects to consider

A series of very important factors need considering before starting to disassemble the pump:

- ↗ Disconnect the pump completely from any electrical current to prevent the motor from starting up during disassembly or the flushing cycle starting up.
- ↗ Allow the equipment to cool to room temperature after pumping liquids at high temperatures
- ↗ Close the fluid suction and discharge valves, and then empty the pump and pumped fluid pipes, taking the pumped product safety file precautions into account.
- ↗ Clean any fluid residue that remains on the outside of the pump.



Qualified personnel must undertake any assembly or disassembly work, given that any incorrect procedure can damage the pump.



Lubricate the gaskets and lip seals beforehand to make them easier to fit.



Please pay particular attention to the friction sides of the seal and the O-ring seals.

### 6.2 Disassembling the pump

Step 1. Remove the clamp (16) by loosening the hexagonal rod.

Step 2. Remove the pump's casing (4) using a flat spanner for leverage.

Step 3. Carefully remove the O-ring seal (13), replacing it in the event of any damage.

Step 4. Remove the lantern ring (3) cover (12) and prevent the shaft (6) from moving by placing a flat spanner between the flat locking points.

Step 5. Loosen the impeller (7) screw (17) and remove it.

Step 6. Remove the impeller (7). If required, loosen it by gently hitting the impeller's (7) blades with a nylon hammer.

Step 7. Delicately remove the rotating part of the mechanical seal (10) by sliding it along the pump shaft (6).

Step 8. Manually remove the stationary part of the mechanical seal (10) that sits on the pump flange mount (5).

Step 9. Remove the hex screws (22) and washers (18) that fasten the lantern ring (3) to the flange mount (5) and remove it by gently hitting the upper part with a nylon hammer.

Step 10. Loosen the Allen grub screws (19) and remove the pump shaft (6), hitting it with a nylon hammer if required.

### **6.3 Pump assembly**

Step 1. Fit the pump shaft (6) and the lock ring (11) onto the motor (1) shaft.

Step 2. Tighten the Allen screws lightly on the shaft (19) and check that the pump shaft (6) can still slide

Step 3. Fit the lantern ring (3) and secure it with the motor's (1) flange using hex screws (22).

Step 4. Fit the stationary part of the primary mechanical seal onto the flange mount (5). Ensure that any anti-rotation pivot enters the seal groove.

Step 5. Fit the flange mount (5) into the pump's lantern ring (3), securing it using hex screws (22)

Step 6. Slide the mechanical seal rotating part along the pump shaft (6).

Step 7. Fit the impeller's (7) female taper to the pump shaft's (6) male taper and slide it until it comes up against the next shaft section (6).

Step 8. Secure the impeller (7) using the impeller locking screw (17).

Step 9. Fit the O-ring seal (13) inside the flange mount (5) groove.

Step 10. Mount the pump casing (4) and secure it with the clamp (16)

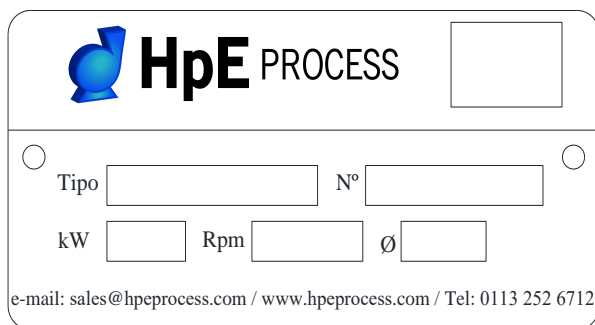


Warning! Apply assembly lubricant to the threads and screws to avoid them seizing up.

## 7 TECHNICAL DATA

### 7.1 Equipment identification

Please always remember to state the serial number and the equipment type for any consultation or spare parts request. These details are included on a nameplate that every equipment carries.



HpE PROCESS

Tipo  N°

kW  Rpm  Ø

e-mail: sales@hpeprocess.com / www.hpeprocess.com / Tel: 0113 252 6712

Type: Model description

No.: Serial number

kW: Installed power

RPM: Angular velocity

Ø: Impeller diameter

### 7.2 Technical specifications

#### - Data

Maximum pressure	5-6 bar
Temperature range	- 10 to 140 °C (EPDM)
Maximum speed	3600 rpm at 60 Hz

#### - Materials

Parts in contact with the product	AISI 316L (1.4404) stainless steel
Other external parts	AISI 304 (1.4306) stainless steel
Gaskets in contact with the product	NBR (standard)
Other gaskets	EPDM, FPM, FKM, and FEP
Interior finish level	shot-blasted / matte / Glazed Ra <0.8µm Mirror polishing Ra<0.6µm
Exterior finish level	Blasted matte

#### - Mechanical seal

Seal types	Simple internal mechanical seal
Rotating part material	Graphite / Silicon carbide
Stationary part material	Stainless steel / Silicon carbide
Gasket material	EPDM, NBR, FKM, and FPM



**- Drive**

IEC standard, three-phase asynchronous motors and B3-B5 or B-14 configuration, with 2 and 4 poles, IP55, and F class insulation. Frequencies of 50 or 60 Hz  
 220-240 V Δ / 380-420 V Y, 380-420 V Δ / 660-690 V Y

**7.3 Noise emission**

The FL30-50CI centrifugal pump range complies with the standard noise emission. The indicated noise measurement and levels correspond to standard pumps, with maximum diameter impellers and the sheathed motor operating at approximately 2920 rpm. The tests were undertaken under the highest performance conditions and with the required motor power outputs.

Normally, the noise level generated by the flow passing through the installation (valves, pipes, accessories, tanks, etc.) is louder than that generated by the pump itself.



When the sound pressure level exceeds 80dBA, use a suitable individual protection system in line with the current standard.

**7.4 Tightening torques**

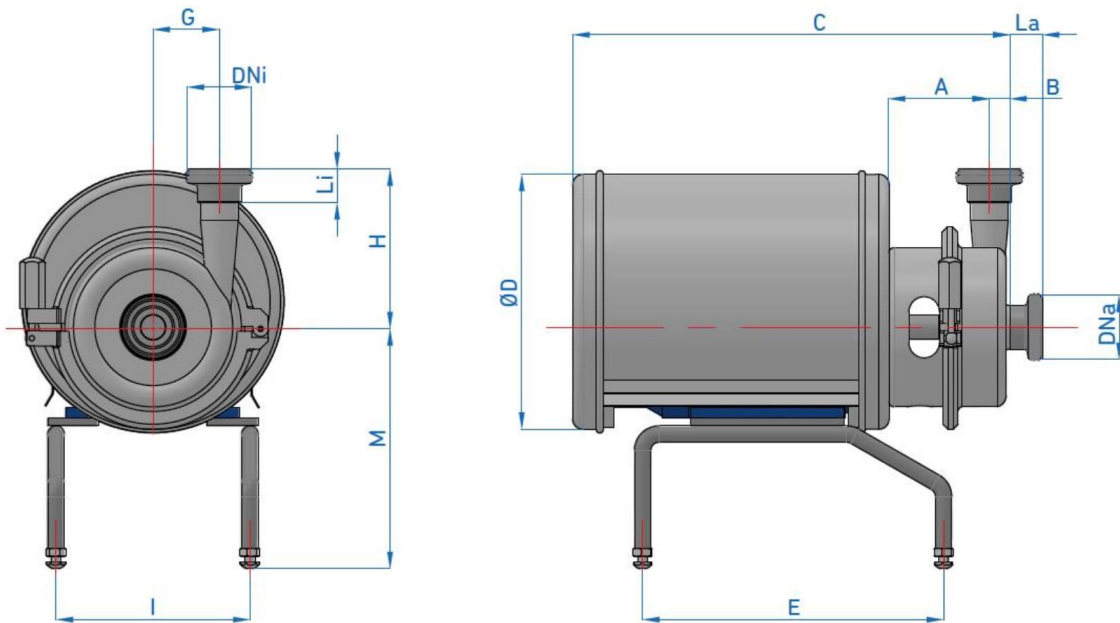
The following table describes the tightening torques for the screws, bolts, and nuts used with the centrifugal pump range. Always use the torques indicated below:



Important for your safety

Size	Tightening torque	
	N.m	lbf.ft
M-6	10	7
M-8	20	14.8
M-10	40	29.5
M-12	70	51
M-16	110	81

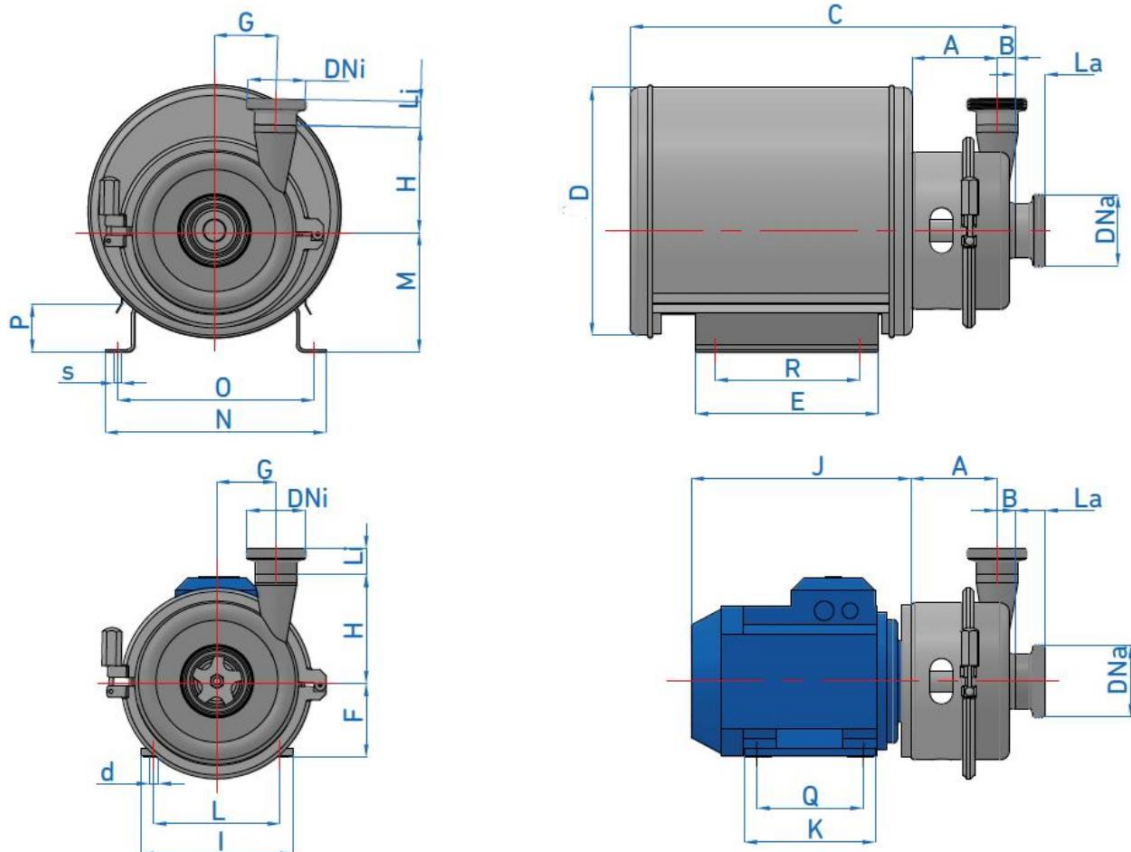
### 7.5 FL50CI dimensions



MODELO	MOTOR		DIMENSIONES											PESO (Kg)*				
	T	KW	DN a	DN i	A	B	C	D	E	M min	G	H	I					
FL51CI	71	0.37	40	32	99	20	430	250	295	209	65	123	180	16.5				
		0.55								18.5								
	80	0.75	40	40						218				224	19.5			
		1.1								21								
	90	1.5	40	40						228				224	26.5			
		2.2								26.5								
FL52CI	90	1,5	50	40	112	24	506	325	295	228	78	140	224	31,5				
		2,2								248			33					
	100	3	65	50					133	566			375	361	260	208	45	
		4													210	49		
	132	5,5	65	50	133	566	375	361	280	210			49	236	72			
		7,5							236	85								
	FL53CI	112	4	80	65	152	35	557	325	260			100	200	210	65		
			5,5												361	236	80	
132		7,5	65							182	947	550				465	280	236
		11													370		133	
160		15	65			182	947	550	465	310	304	370			145			
		18,5									304	160						
180		22	329			180												

RACORD	Dna	Dni	La	Li	Dna	Dni	La	Li	Dna	Dni	La	Li
<b>DIN 11851</b>	50	40	23	22	65	50	25	23	80	65	45	40
<b>CLAMP</b>	2"	1 1/2"	21.5	21.5	2 1/2"	2"	28,5	21,5	3"	2 1/2"	49	49
<b>SMS</b>	51	38	25	25	63	51	30	25	71	51	30	25

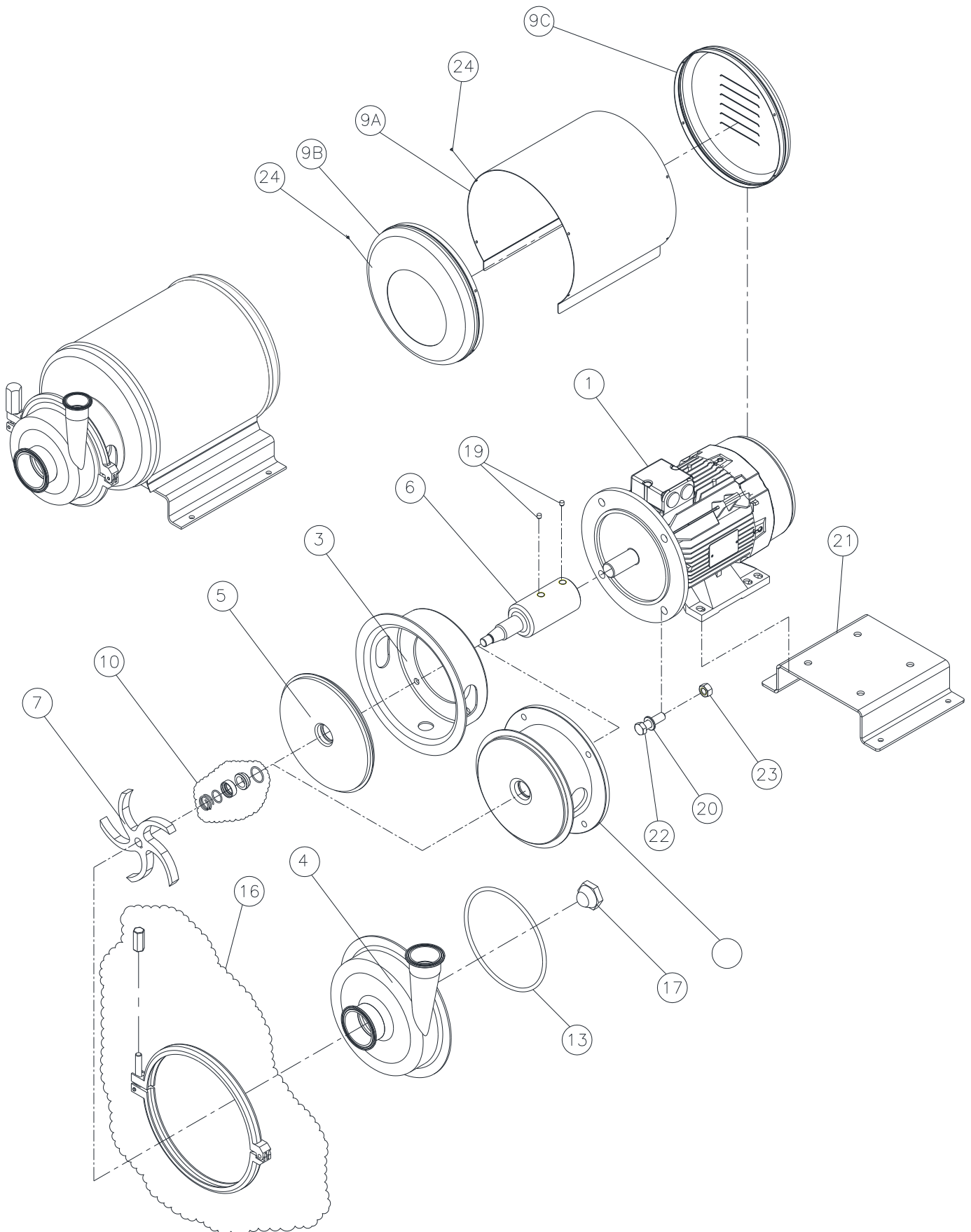
### 7.6 FL30CI dimensions



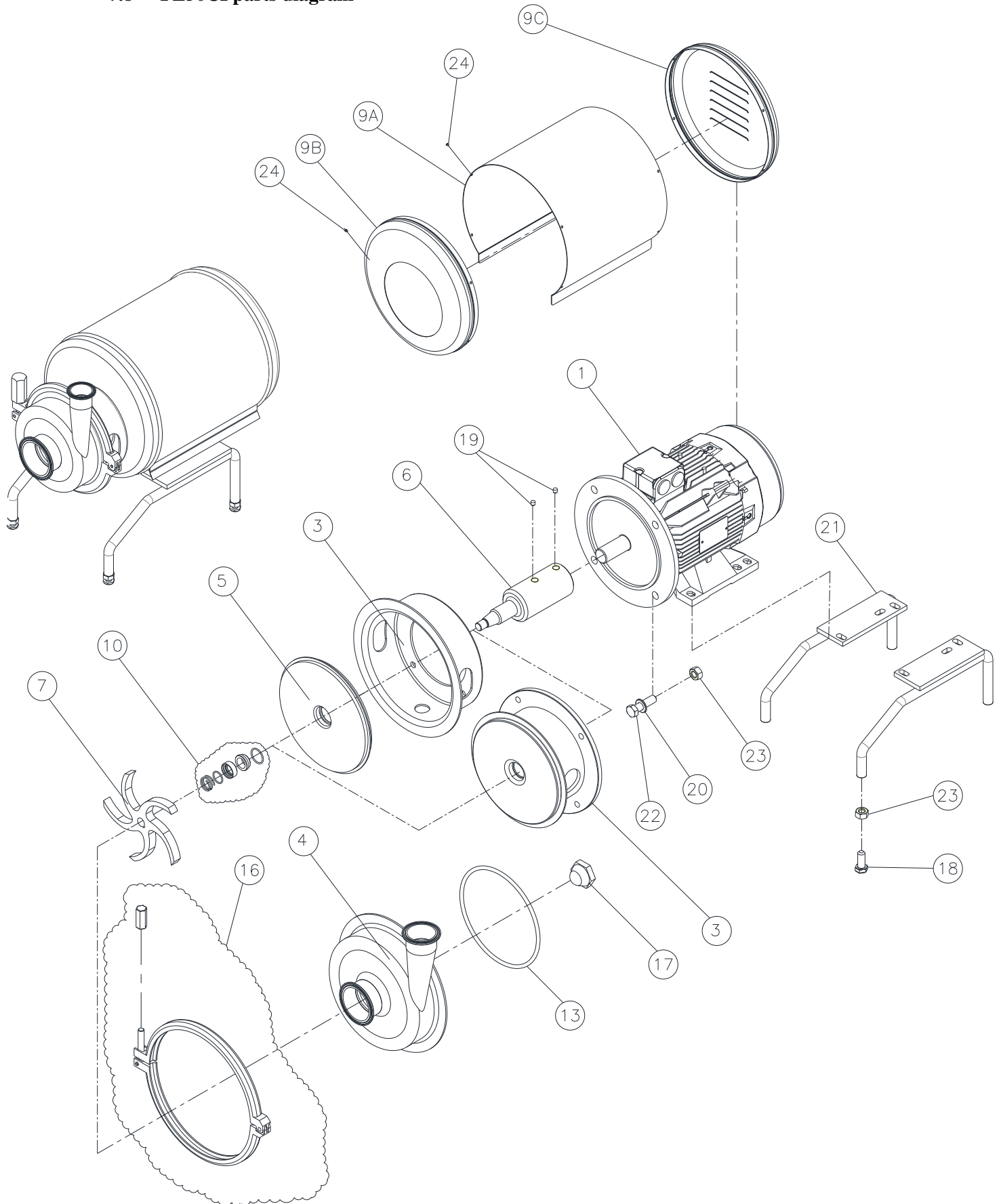
MODELO	MOTOR		DIMENSIONES																				PESO (Kg)			
	T	KW	DN <sub>a</sub>	DN <sub>i</sub>	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	d	s	MR	MR <sub>a</sub>
FL31CI	71	0,37	40	32	99	20	430	250	180	80	65	123	136	225	110	112	126	245	215	55	100	135	7	10	14,5	12,5
		0,55																							18,5	14,5
	0,75	19,5	15,5																							
	1,1	21	17																							
	1,5	26,5	22,5																							
2,2	26,5	22,5																								
FL32CI	90	1,5	50	40	112	24	506	325	180	90	78	140	174	295	155	140	145	245	215	55	125	135	9	10	31,5	27,5
		2,2																							33	29
	3	42	36																							
	4	46	40																							
	5,5	69	63																							
7,5	82	76																								
FL33CI	112	4	80	65	152	35	557	325	240	112	100	200	224	350	180	160	172	310	275	60	140	200	11	12	62	56
		5,5																							77	71
	7,5	89																							83	
	11	134																							114	
	15	146																							126	
18,5	160	140																								
22	180	160																								

RACORD	Dna	Dni	La	Li	Dna	Dni	La	Li	Dna	Dni	La	Li
DIN 11851	50	40	23	22	65	50	25	23	80	65	45	40
CLAMP	2"	1 1/2"	21.5	21.5	2 1/2"	2"	28,5	21,5	3"	2 1/2"	49	49
SMS	51	38	25	25	63	51	30	25	71	51	30	25

### 7.7 FL30CI parts diagram



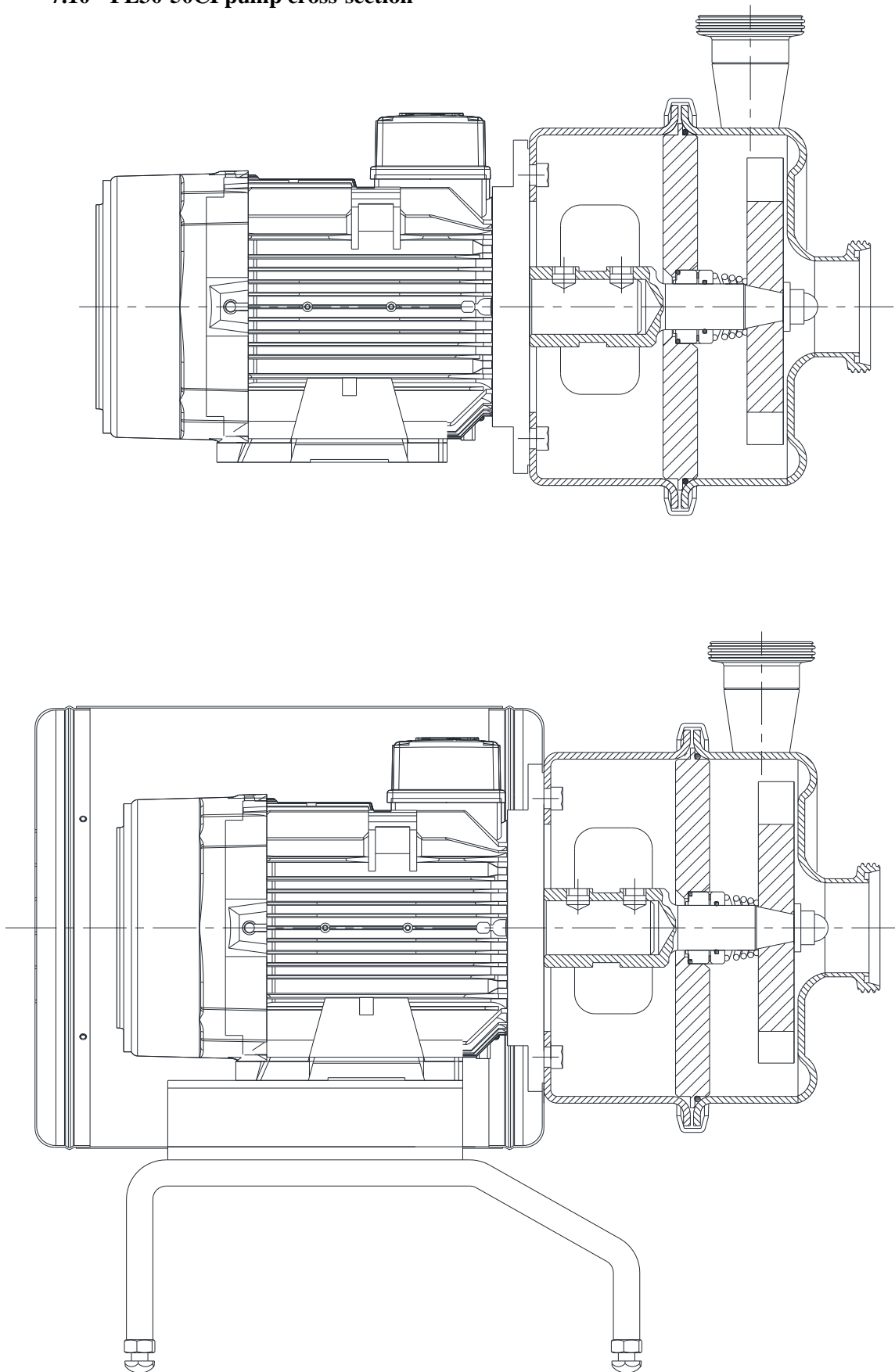
**7.8 FL50CI parts diagram**



## 7.9 FL30/50CI parts list



Item	Name	Quantity	Material
1	Motor	1	-
3	Lantern ring	1	AISI 304 stainless steel
4	Casing	1	AISI 316 stainless steel
5	Flange mount	1	AISI 316 stainless steel
6	Shaft	1	AISI 316 stainless steel
7	Impeller	1	AISI 316 stainless steel
9A	Housing	1	AISI 304 stainless steel
9B	Housing front cover	1	AISI 304 stainless steel
9C	Housing rear cover	1	AISI 304 stainless steel
10	Mechanical seal	1	-
13	Casing O-ring	1	EPDM
16	Clamp	1	AISI 304 stainless steel
17	Impeller screw	1	AISI 316 stainless steel
18	Stand screw	3	A2
19	Allen grub screw	2	A2
20	Flat washer	8	A2
21	Stand / Bench	1	AISI 304 stainless steel
22	Hex screw	8	A2
23	Nut	4	A2
24	Torx screw	4	A2

### 7.10 FL30-50CI pump cross-section



## 8 CERTIFICATES

### 8.1 Manufacturer declaration

 <b>Manufacturer declaration</b> <b>In accordance with the EC machinery directive</b> <b>2006-042</b>		
<p>We hereby declare that the centrifugal pumps:</p>		
Name	Type	Year of manuf.
<b>CENTRIFUGAL PUMP</b>	<b>FL31,32,33CI</b>	<b>2021</b>
<b>CENTRIFUGAL PUMP</b>	<b>FL51,52,53CI</b>	<b>2021</b>
<p>Supplied by HpE Process, satisfy the relevant dispositions for use in an installation or for assembly with other higher range machines. The centrifugal pumps supplied by HpE Process, comply with the dispositions of the CE machinery directive. Specific compliance is required with the standards, UNE-EN ISO 12100-1:2012, UNE-ENISO 1200-2:2012, and their respective current editions.</p>		
<p>In accordance with Spanish Royal Decree 56/1995</p>		
<p>January 2021</p>		
 <b>Technical manager</b>		



## 8.2 EC Declaration of Conformity

  
**EC Declaration of Conformity**

We hereby declare that the centrifugal pumps:

<u>Name</u>	<u>Type</u>	<u>Year of manuf.</u>
<b>CENTRIFUGAL PUMP</b>	<b>FL31,32,33CI</b>	<b>2021</b>
<b>CENTRIFUGAL PUMP</b>	<b>FL51,52,53CI</b>	<b>2021</b>

Comply with the essential requirements of machinery directive 2006-042 and adapt to the harmonised standards:

UNE-ENISO 12100-1:2012  
UNE-ENISO 12100-2:2012  
UNE-EN 809: 1999  
EN 60034/5

Regulation (EC) No. 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food.

Regulation (EC) No. 2023/2006 of 22 December 2006 on good manufacturing practice for materials and articles intended to come into contact with food.

In accordance with Spanish Royal Decree 56/1995

January 2021



**Technical manager**





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